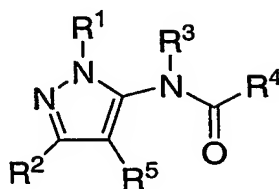


WHAT IS CLAIMED IS:

1. A compound of the formula I:



I

wherein:

R¹ is selected from the group consisting of:

- (1) hydrogen,
- (2) C₁-6alkyl, which is unsubstituted or substituted with halogen, hydroxyl or phenyl,
- (3) C₃-7cycloalkyl, which is unsubstituted or substituted with halogen, hydroxyl or phenyl, and
- (4) phenyl, which is unsubstituted or substituted with one or more substituents independently selected from:
 - (a) -C₁-6alkyl,
 - (b) -O-C₁-6alkyl,
 - (c) halo,
 - (d) hydroxy,
 - (e) trifluoromethyl,
 - (f) -OCF₃,
 - (g) -CO₂R⁹,

wherein R⁹ is independently selected from:

- (i) hydrogen,
- (ii) -C₁-6alkyl, which is unsubstituted or substituted with 1-6 fluoro,
- (iii) benzyl, and
- (iv) phenyl,
- (h) -NR¹⁰R¹¹,

wherein R¹⁰ and R¹¹ are independently selected from:

- (i) hydrogen,
- (ii) -C₁-6alkyl, which is unsubstituted or substituted with 1-6 fluoro,
- (iii) -C₅-6cycloalkyl,

- (iv) benzyl,
- (v) phenyl,
- (vi) -S(O)₂-C₁₋₆alkyl,
- (vii) -S(O)₂-benzyl, and
- (viii) -S(O)₂-phenyl,

- (i) -CONR¹⁰R¹¹, and
- (j) -NO₂;

(5) heterocycle, wherein heterocycle is selected from:

benzoimidazolyl, benzimidazolonyl, benzofuranyl, benzofurazanyl,
 benzopyrazolyl, benzotriazolyl, benzothiophenyl, benzoxazolyl, carbazolyl,
 carbolinyl, cinnolinyl, furanyl, imidazolyl, indolinyl, indolyl, indolazinyll,
 indazolyl, isobenzofuranyl, isoindolyl, isoquinolyl, isothiazolyl, isoxazolyl,
 naphthpyridinyl, oxadiazolyl, oxazolyl, oxazoline, isoxazoline, oxetanyl, pyranly,
 pyrazinyl, pyrazolyl, pyridazinyl, pyridopyridinyl, pyridazinyl, pyridyl, pyrimidyl,
 pyrrolyl, quinazolinyl, quinolyl, quinoxalinyl, tetrahydropyranyl, tetrazolyl,
 tetrazolopyridyl, thiadiazolyl, thiazolyl, thienyl, triazolyl, azetidinyll, 1,4-dioxanyl,
 hexahydroazepinyl, piperazinyl, piperidinyl, pyridin-2-onyl, pyrrolidinyl,
 morpholinyl, thiomorpholinyl, dihydrobenzoimidazolyl, dihydrobenzofuranyl,
 dihydrobenzothiophenyl, dihydrobenzoxazolyl, dihydrofuranyl,
 dihydroimidazolyl, dihydroindolyl, dihydroisooxazolyl, dihydroisothiazolyl,
 dihydrooxadiazolyl, dihydrooxazolyl, dihydropyrazinyl, dihydropyrazolyl,
 dihydropyridinyl, dihydropyrimidinyl, dihydropyrrolyl, dihydroquinolinyl,
 dihydrotetrazolyl, dihydrothiadiazolyl, dihydrothiazolyl, dihydrothienyl,
 dihydrotriazolyl, dihydroazetidinyll, methylenedioxybenzoyl, tetrahydrofuranyl,
 and tetrahydrothienyl, and N-oxides thereof, which is unsubstituted or substituted
 with one or more substituents independently selected from:

- (a) -C₁₋₆alkyl,
- (b) -O-C₁₋₆alkyl,
- (c) halo,
- (d) hydroxy,
- (e) phenyl,
- (f) trifluoromethyl,
- (g) -OCF₃,
- (h) -CO₂R⁹,

- (i) -NR¹⁰R¹¹, and
- (j) -CONR¹⁰R¹¹;

R² and R⁵ are independently selected from the group consisting of:

- 5 (1) hydrogen,
- (2) C₁₋₆alkyl, which is unsubstituted or substituted with halogen, hydroxyl or phenyl,
- (3) C₃₋₇cycloalkyl, which is unsubstituted or substituted with halogen, hydroxyl or phenyl, and
- 10 (4) phenyl, which is unsubstituted or substituted with one or more substituents independently selected from:
 - (a) -C₁₋₆alkyl, which is unsubstituted or substituted with -NR¹⁰R¹¹,
 - (b) -O-C₁₋₆alkyl,
 - (c) halo,
 - 15 (d) hydroxy,
 - (e) trifluoromethyl,
 - (f) -OCF₃;
 - (g) -CO₂R⁹,
 - (h) -NR¹⁰R¹¹,
 - 20 (i) -C(O)NR¹⁰R¹¹, and
 - (j) -NO₂,
- (5) heterocycle, wherein heterocycle is selected from:
 - benzoimidazolyl, benzimidazolonyl, benzofuranyl, benzofurazanyl,
 - benzopyrazolyl, benzotriazolyl, benzothiophenyl, benzoxazolyl, carbazolyl,
 - 25 carbolinyl, cinnolinyl, furanyl, imidazolyl, indolinyl, indolyl, indolaziny, indazolyl, isobenzofuranyl, isoindolyl, isoquinolyl, isothiazolyl, isoxazolyl, naphthpyridinyl, oxadiazolyl, oxazolyl, oxazoline, isoxazoline, oxetanyl, pyranyl, pyrazinyl, pyrazolyl, pyridazinyl, pyridopyridinyl, pyridazinyl, pyridyl, pyrimidyl, pyrrolyl, quinazolinyl, quinolyl, quinoxaliny, tetrahydropyranyl, tetrazolyl,
 - 30 tetrazolopyridyl, thiadiazolyl, thiazolyl, thienyl, triazolyl, azetidiny, 1,4-dioxanyl, hexahydroazepinyl, piperazinyl, piperidinyl, pyridin-2-onyl, pyrrolidinyl, morpholinyl, thiomorpholinyl, dihydrobenzoimidazolyl, dihydrobenzofuranyl, dihydrobenzothiophenyl, dihydrobenzoxazolyl, dihydrofuranyl, dihydroimidazolyl, dihydroindolyl, dihydroisooxazolyl, dihydroisothiazolyl,

5 dihydrooxadiazolyl, dihydrooxazolyl, dihydropyrazinyl, dihydropyrazolyl, dihydropyridinyl, dihydropyrimidinyl, dihydropyrrolyl, dihydroquinolinyl, dihydrotetrazolyl, dihydrothiadiazolyl, dihydrothiazolyl, dihydrothienyl, dihydrotriazolyl, dihydroazetidiny, methylenedioxybenzoyl, tetrahydrofuranyl, and tetrahydrothienyl, and N-oxides thereof, which is unsubstituted or substituted with one or more substituents independently selected from:

- 10 (a) -C₁₋₆alkyl,
(b) -O-C₁₋₆alkyl,
(c) halo,
(d) hydroxy,
(e) phenyl,
(f) trifluoromethyl,
(g) -OCF₃;
(h) -CO₂R⁹,
15 (i) -NR¹⁰R¹¹, and
(j) -CONR¹⁰R¹¹;

R³ is independently selected from the group consisting of:

- 20 (1) hydrogen, and
(2) C₁₋₆alkyl;

R⁴ is selected from the group consisting of:

- 25 (1) C₁₋₆alkyl, which is unsubstituted or substituted with halogen, hydroxyl, phenyl or heterocycle,
(2) C₃₋₇cycloalkyl, which is unsubstituted or substituted with halogen, hydroxyl or phenyl, and
(3) phenyl, which is unsubstituted or substituted with one or more substituents independently selected from:
30 (a) -C₁₋₆alkyl,
(b) -O-C₁₋₆alkyl,
(c) halo,
(d) hydroxy,
(e) trifluoromethyl,
(f) -OCF₃,

- (g) $-\text{CO}_2\text{R}^9$,
- (h) $-\text{CN}$,
- (i) $-\text{NR}^{10}\text{R}^{11}$,
- (j) $-\text{CONR}^{10}\text{R}^{11}$, and
- (k) $-\text{NO}_2$;

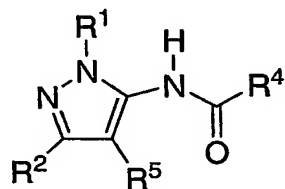
(4) heterocycle, wherein heterocycle is selected from:

benzoimidazolyl, benzimidazolonyl, benzofuranyl, benzofurazanyl, benzopyrazolyl, benzotriazolyl, benzothiophenyl, benzoxazolyl, carbazolyl, carbolinyl, cinnolinyl, furanyl, imidazolyl, indolinyl, indolyl, indolaziny, indazolyl, isobenzofuranyl, isoindolyl, isoquinolyl, isothiazolyl, isoxazolyl, naphthpyridinyl, oxadiazolyl, oxazolyl, oxazoline, isoxazoline, oxetanyl, pyranyl, pyrazinyl, pyrazolyl, pyridazinyl, pyridopyridinyl, pyridazinyl, pyridyl, pyrimidyl, pyrrolyl, quinazoliny, quinolyl, quinoxaliny, tetrahydropyranyl, tetrazolyl, tetrazolopyridyl, thiadiazolyl, thiazolyl, thienyl, triazolyl, azetidiny, 1,4-dioxanyl, hexahydroazepinyl, piperazinyl, piperidinyl, pyridin-2-onyl, pyrrolidinyl, morpholinyl, thiomorpholinyl, dihydrobenzoimidazolyl, dihydrobenzofuranyl, dihydrobenzothiophenyl, dihydrobenzoxazolyl, dihydrofuranyl, dihydroimidazolyl, dihydroindolyl, dihydroisooxazolyl, dihydroisothiazolyl, dihydrooxadiazolyl, dihydrooxazolyl, dihydropyrazinyl, dihydropyrazolyl, dihydropyridinyl, dihydropyrimidinyl, dihydropyrrolyl, dihydroquinoliny, dihydrotetrazolyl, dihydrothiadiazolyl, dihydrothiazolyl, dihydrothienyl, dihydrotriazolyl, dihydroazetidiny, methylenedioxybenzoyl, tetrahydrofuranyl, and tetrahydrothienyl, and N-oxides thereof, which is unsubstituted or substituted with one or more substituents independently selected from:

- (a) $-\text{C}_{1-6}\text{alkyl}$,
- (b) $-\text{O}-\text{C}_{1-6}\text{alkyl}$,
- (c) halo,
- (d) hydroxy,
- (e) phenyl,
- (f) trifluoromethyl,
- (g) $-\text{OCF}_3$,
- (h) $-\text{CO}_2\text{R}^9$,
- (i) $-\text{NR}^{10}\text{R}^{11}$, and
- (j) $-\text{CONR}^{10}\text{R}^{11}$;

and pharmaceutically acceptable salts thereof and individual diastereomers thereof.

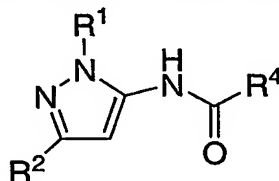
2. The compound of Claim 1 of the formula Ia:



Ia

and pharmaceutically acceptable salts thereof and individual enantiomers and diastereomers thereof.

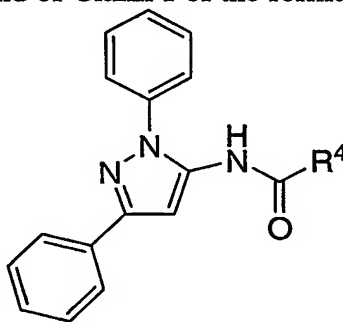
3. The compound of Claim 1 of the formula Ib:



Ib

and pharmaceutically acceptable salts thereof and individual enantiomers and diastereomers thereof.

4. The compound of Claim 1 of the formula Ic:

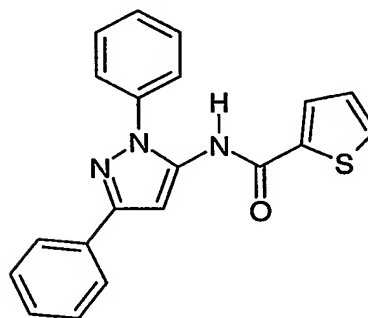
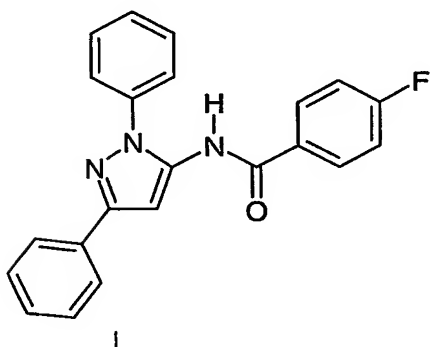
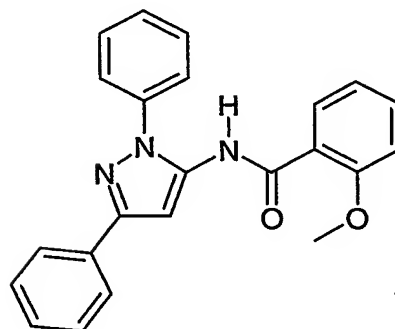
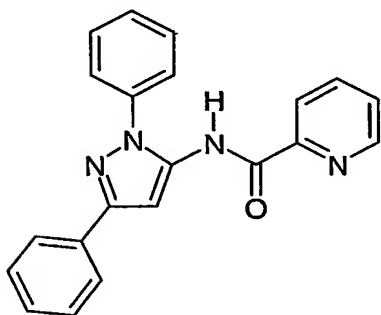
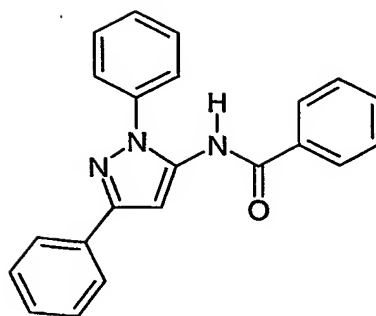
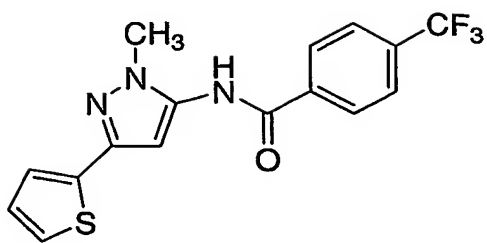


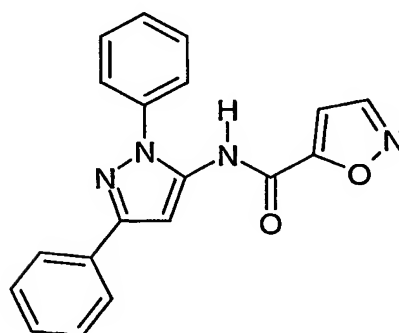
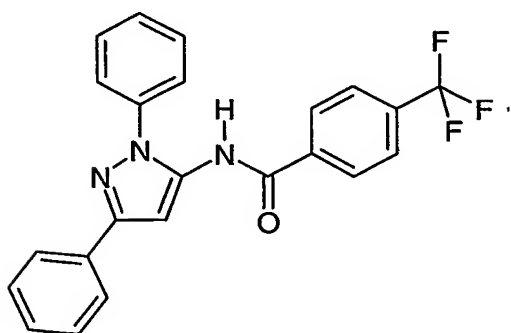
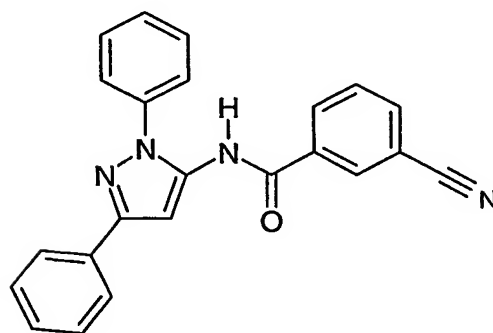
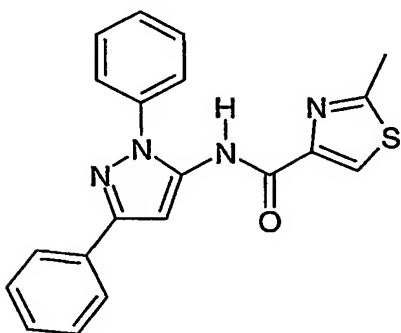
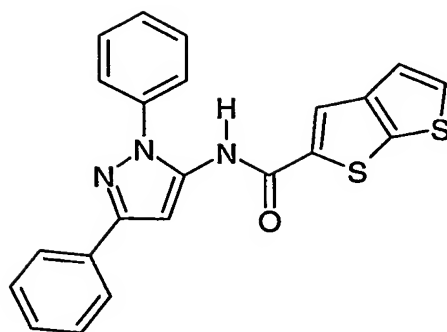
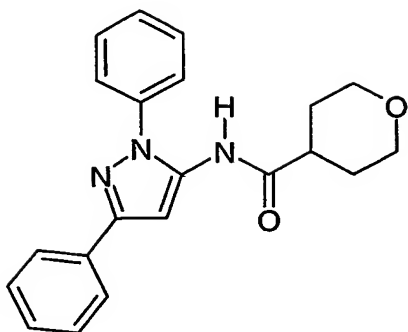
Ic

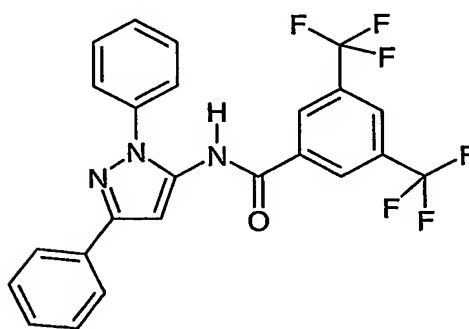
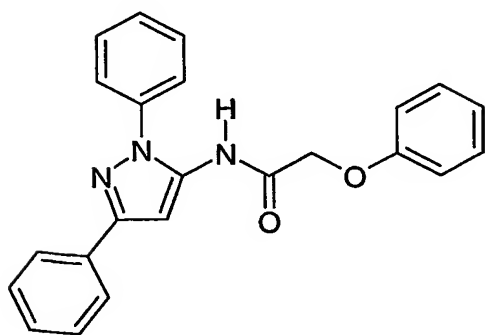
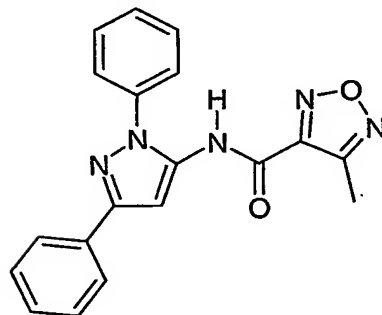
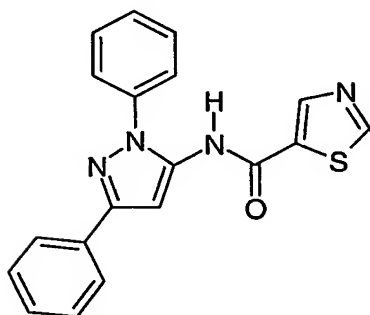
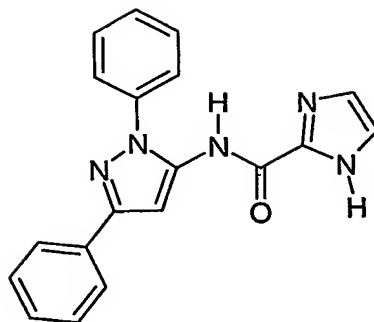
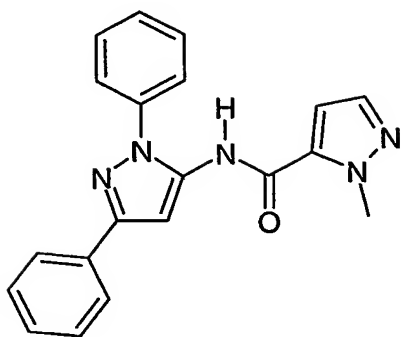
and pharmaceutically acceptable salts thereof and individual enantiomers and diastereomers thereof.

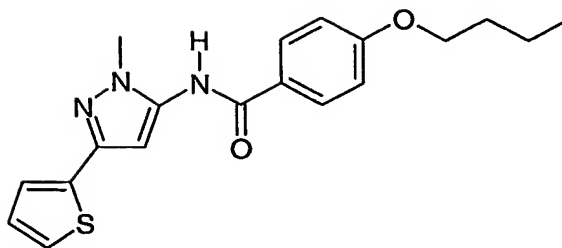
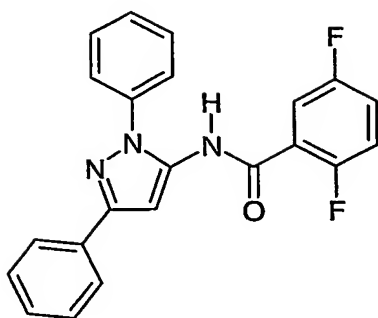
5. The compound of Claim 1 wherein R¹ is hydrogen.

- 5
6. The compound of Claim 1 wherein R^1 is phenyl.
7. The compound of Claim 1 wherein R^2 is phenyl.
8. The compound of Claim 1 wherein R^3 is hydrogen.
9. The compound of Claim 1 wherein R^4 is phenyl, which is unsubstituted or substituted with one or more substituents independently selected from:
- 10
- (a) $-C_{1-6}$ alkyl,
 - (b) $-O-C_{1-6}$ alkyl,
 - (c) halo,
 - (d) hydroxy,
 - (e) trifluoromethyl,
 - 15 (f) $-OCF_3$;
 - (g) $-CO_2-C_{1-6}$ alkyl,
 - (h) $-CN$,
 - (i) $-NH_2$,
 - (j) $-NH-C_{1-6}$ alkyl,
 - 20 (k) $-CONH_2$, and
 - (l) $-CONH-C_{1-6}$ alkyl.
10. The compound of Claim 9 wherein R^4 is phenyl, which is unsubstituted or substituted with halo or $-CN$.
- 25
11. The compound of Claim 10 wherein R^4 is phenyl.
12. The compound of Claim 1 wherein R^4 is pyridyl.
- 30
13. The compound of Claim 1 wherein R^5 is hydrogen.
14. A compound which is selected from the group consisting of:









and pharmaceutically acceptable salts thereof.

15. A pharmaceutical composition which comprises an inert carrier and a compound of Claim 1.

5

16. A method for potentiation or inhibition of metabotropic glutamate receptor activity in a mammal which comprises the administration of an effective amount of the compound of Claim 1.

10 17. A method for the manufacture of a medicament for potentiation or inhibition of metabotropic glutamate receptor activity in a mammal comprising combining the compound of Claim 1 with a pharmaceutical carrier or diluent.

15 18. A method for treating a neurological and psychiatric disorders associated with glutamate dysfunction in a mammalian patient in need of such which comprises administering to the patient a therapeutically effective amount of a compound of Claim 1.

20 19. A method for treating schizophrenia in a mammalian patient in need of such which comprises administering to the patient a therapeutically effective amount of a compound of Claim 1.

25 20. A method for treating anxiety in a mammalian patient in need of such which comprises administering to the patient a therapeutically effective amount of a compound of Claim 1.